Denver- 11871 E 33rd Ave Unit B Aurora CO 80010
New York- 418 Broadway STE N Albany NY 12207
e-mailmy@systec101.com
Phone: 303-537-7575

Cover Letter

February 23, 2024

Alexis Croone
Contract Specialist

AFLCMC/PZIB
1170 Air Force Pentagon
Washington, DC 20330

RE: Solicitation 2024-PZI-1238 - Fiber to Desk Installation at Building 1614, Hanscom AFB

Dear Ms. Croone,

SYSTEC101 is pleased to submit our proposal in response to the above-referenced solicitation to provide fiber optic cabling services at Building 1614 on Hanscom Air Force Base.

SYSTEC101 has over 14 years of experience designing and installing structured cabling systems for higher education, healthcare and commercial sectors. We employ experts with BICSI credentials such as RCDD and Bicsi certified technicians, and small business with a local office in Colorado and New York that will allow us to effectively manage this project.

Our project manager, Murat Yidirim, has successfully led the installation of over 30 similar fiber optic cabling projects across the states. He will oversee all aspects of the work and ensure it is completed on schedule and within budget.

We have reviewed the Statement of Work and technical requirements in detail. Our technical approach leverages best practices to ensure a robust, scalable infrastructure that meets the needs of the Air Force today and into the future.

Thank you for the opportunity to submit our qualifications. We believe our proven experience and competitive pricing make us well-suited for this project. Please do not hesitate to contact me if you need any additional information. I can be reached at 970-646-2706 or my@systec101.com.

Sincerely,

Murat Yildirim
President
Systec101

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Company Overview

SYSTEC101 is a leading provider of structured cabling solutions with over 14 years of experience in the industry. We are a BICSI-certified, small business with regional offices located in Denver, Colorado and New York City. SYSTEC101 has a dedicated project management team led by RCDD-certified project managers. All of our technicians maintain current BICSI installer certifications to ensure work is performed according to industry standards.

SYSTEC101 has a proven track record of successfully delivering fiber optic cabling projects for various government agencies and commercial clients. We have particular expertise in designing and implementing complex cabling infrastructure for multi-building campuses. For this project, SYSTEC101 has thoroughly reviewed the Statement of Work and carefully priced our proposal to provide best value to the government. With local resources and competitive pricing, SYSTEC101 Communications is well positioned to complete this scope of work on schedule and within budget.

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Scope of Work

SYSTEC101 will provide all labor, materials, equipment and supervision to complete the fiber optic cabling work as outlined below:

Design - Develop design drawings and documentation in accordance with EIA/TIA standards within 30 days of NTP.

Project Management - Provide full-time on-site project management for duration of work. Manage schedule, RFIs, submittals and coordination.

Material Procurement - Supply and deliver all equipment,cabling, connectors, enclosures and hardware in accordance with the design and materials list.

Server Room Build Out -

Cable Installation - Install multi-mode and single-mode fiber optic cabling between MDF and IDF rooms and from IDF rooms to work area drops as shown on drawings.

Termination - Terminate all fiber cables using fusion splicing and LC connectors. s.

Testing - Perform OTDR testing on all fiber runs and copper wiremap testing. Provide test results documentation.

Enclosures - Provide and install fiber termination/patch panels, fiber breakout kits and misc installation materials.

Documentation - Provide as-built drawings, O&M manuals, warranties and test result documentation.

Safety - Comply with all OSHA safety requirements and ensure work does not disrupt base operations.

This scope of work addresses all requirements outlined in the SOW, technical specifications and drawings. SYSTEC101 is fully prepared to complete this project on schedule and within budget.

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Technical Approach

Our technical approach is outlined below:

Server Cabinet Preparation and Build-Out Process

Our process for the server cabinet build-out is designed to ensure a seamless, efficient, and error-free installation within the server rooms. This process includes the following steps:

Preparation and Design Alignment: Before any physical work begins, our design team, led by an RCDD, working with customer technical contact will finalize the server room layouts, ensuring optimal placement of server cabinets for accessibility, airflow management, and future scalability. This phase includes precise mapping of where each piece of equipment will be located within the cabinets, ensuring a match with the overall design specifications.
Equipment Procurement and Pre-Assembly: Concurrently with design finalization, we will procure server racks and associated equipment, including fiber enclosures, network rack shelves, horizontal and vertical cable managers, vertical power strips, and grounding hardware. Equipment will be pre-assembled as much as possible off-site to minimize on-site work duration and complexity. This includes mounting of horizontal and vertical cable managers, power strips, and preliminary cable routing layouts within the cabinets.
On-Site Delivery and Assembly: Once pre-assembly is completed, the server cabinets and all components will be carefully transported to the site. Upon arrival, our team will execute a coordinated effort to move the cabinets into their designated positions within the server rooms, adhering to the pre-determined layout and ensuring minimal disruption to base operations.
Equipment Installation and Cable Management: With the cabinets in place, our technicians will install the remaining components, such as fiber enclosures and network rack shelves, ensuring each piece is securely mounted and aligned with the overall design for efficient cable management and system accessibility. Special attention will be paid to the precise organization of cables using the

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installed cable managers, ensuring a clean, organized, and easily maintainable setup.

Rack Bonding and Grounding: Following the component installation, we will perform the crucial step of bonding all network racks to the customer-provided ground bus bars. This ensures the entire system is properly grounded, enhancing safety and reducing the risk of electrical interference that could impact system performance.

Example of server cabinet schematic design (Actual device elevation might be different based on customer needs)

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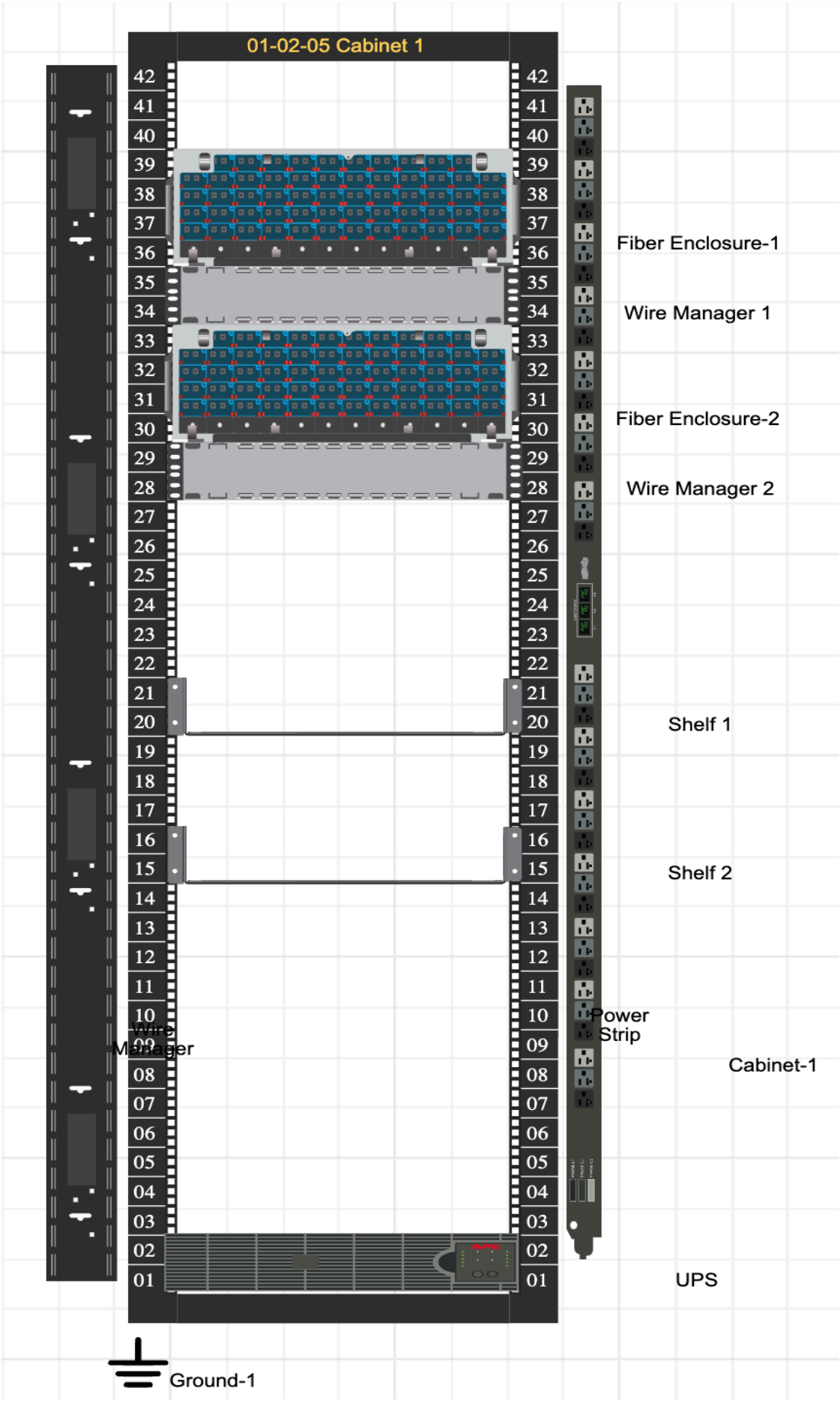

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Safety and Efficiency

Throughout this process, we will maintain the highest standards of safety and efficiency, complying with all OSHA requirements and ensuring that our activities do not disrupt ongoing operations at the base. Our team's expertise and meticulous planning will guarantee that the server room build-out is completed on schedule, within budget, and to the highest quality standards, providing a robust foundation for the Air Force's critical operations.

Fiber Cabling Scope of Work

SYSTEC101 is committed to delivering a fiber optic cabling system that meets the highest standards of quality, safety, and performance. Our approach incorporates the following specific requirements to ensure compliance with best practices and client expectations:

BICSI Certification: All fiber optic cabling work will be performed by technicians holding the BICSI Installer 2, Optical Fiber® (INSTF®) certification. This guarantees that every member of our installation team possesses the knowledge and skills necessary to deliver work of exceptional quality.
Cabling pathway: In compliance with security requirements, all fiber optic cabling penetrating secure walls will be routed through metal conduits, provided by others. This measure ensures the protection and integrity of the cabling in sensitive areas.

Cable Specifications:

- The optical fiber cables used will be non-conductive optical fiber plenum (OFNP) to meet fire safety standards and ensure safe installation in air handling spaces.
- All optical fiber cables will be Orange for OM2, Aqua for OM3 and Yellow for OS2 , adhering to the color-coding standards for single-mode and multi mode fiber to facilitate easy identification and maintenance.

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Termination Methodology: Optical fiber cables will be terminated using unkeyed duplex LC connectors and adapters. Fusion splicing will be employed at both ends to ensure high-quality, low-loss connections that are crucial for reliable network performance.

Telecommunication Drawings:

- Our RCDD will prepare telecommunication drawings in accordance with TIA-606 for Government approval before commencement of the installation. These drawings will detail every termination and cable identifier, demonstrating compliance with the project's technical specifications.
- Final installed wiring system infrastructure will be depicted, highlighting connectivity from the MDF-2 to the Central IT room, to the designated server room, and ultimately to the data port locations.
- A plastic laminated schematic of the as-installed telecommunications cable system will be provided for each Server room, offering a durable and clear reference for future maintenance and expansion efforts.

Manufacturer Experience: We will use cabling, equipment, and hardware from manufacturers with a minimum of three years of experience in producing components that comply with TIA-568.1, TIA-568.2, and TIA-568.3 standards. This ensures the use of correct materials tested for reliability and performance.

Test Plan:

- A detailed test plan for the telecommunications cabling system will be provided 60 days prior to the proposed test date. This plan will include a comprehensive list of test equipment for each cable type specified, along with procedures for certification, validation, and testing, ensuring the system meets all operational requirements.

Cable Imprinting and Labeling:

- In accordance with ICEA S-83-596, TIA-568.3, UL 1666, and NFPA 70, the cable will be imprinted with fiber count, fiber type, and aggregate length at intervals not exceeding 40 inches, allowing for easy identification and inventory management.
- Labeling will adhere to TIA-606 standards, providing a professional and systematic identification method. Handwritten labeling is strictly prohibited to maintain a high standard of clarity and permanence.

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Design - Our in-house RCDD will develop detailed design documents within 30 days of the NTP in accordance with EIA/TIA standards.

Project Management - Murat Yildirim will oversee all aspects of the project and coordinate our team. He will lead weekly status meetings and be the single point of contact.

Permits/Coordination - We will obtain any required permits and coordinate our schedule with other on-site contractors to avoid conflicts.

Installation - Fiber cabling will be installed following manufacturer and BICSI guidelines. Open cabling will be run in cable trays and innerduct where required.

Termination - We will terminate all fiber cables using fusion splicing and LC connectors.

Testing - All cabling will undergo optical time domain reflectometer (OTDR) fiber testing and wiremap testing to certify performance.

Documentation - As-built drawings and O&M manuals will be provided along with test results and warranty information.

Safety - All work will comply with OSHA regulations and be performed to avoid disruptions to base operations.
This proven approach will deliver a high-quality, fully tested and documented solution meeting all requirements. Our team is ready to mobilize quickly upon notice to proceed.

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Schedule
Week 1: Notice to Proceed / Mobilization
Week 2-4: Design Development and Material Procurement
Week 5-6: Permits / Coordination
Week 7-10: Server Room Built Out and cable Installation in Server Rooms
Week 11-15: Cable Installation in Work Areas
Week 16-18: Termination and Testing
Week 19-20: Training and Documentation
Week 21: Punch List / As-Builts
Week 22: Commissioning / Turnover

The schedule assumes a NTP in early March 2024. Key aspects include:

- Design completed within 30 days of NTP
- Longest durations are for cable installation due to phasing
- Testing occurs concurrently with late installation
- Training and documentation run in parallel
- Punch list and closeout allows 2 weeks
- Meets 240 day period of performance

This schedule is conservative and can potentially be accelerated if conditions allow continuous access to work areas. Our team is prepared to meet or beat this timeline and work cooperatively with all contractors on site.

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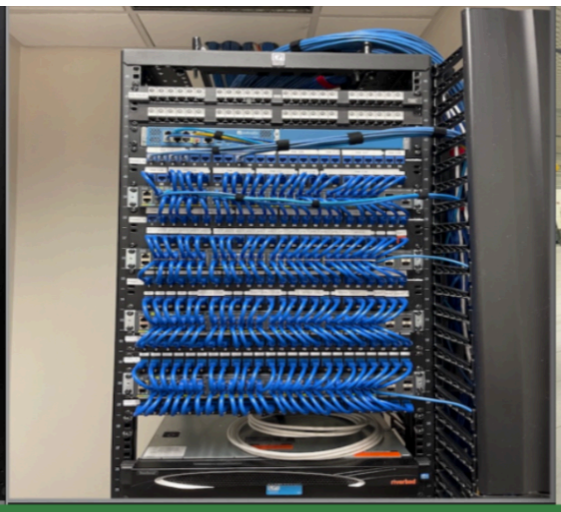


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UEI: HFEHVJHCX743 | CAGE: 9JK62
NAICS: 334111, 334112, 334210, 517111, 517112, 517121,517122,517810, 518210, 541512, 541513, 541519

SYSTEC101 provides copper cabling, fiber optic cabling, access control, and business phone systems to meet your specific needs. SYSTEC101 was established in 2014, as an Information Technology service provider for small and medium size businesses. Over the years, SYSTEC101 shifted towards structured cabling systems and soon completed hundreds of projects, from single office spaces to campuses. gained experience and certifications to provide Structured Cabling Design, installation and maintenance services to school districts, retail stores and office spaces. Now, SYSTEC101 has the ability to design, install, troubleshoot, and maintain various aspects of information and communication systems, including fiber optic networks, distributed antenna systems, and network cabling.

Core competencies

- Information and Communication Systems Design and Installation
- Fiber Optic Cabling Troubleshooting and Maintenance
- Distributed Antenna Systems (DAS) Design and Installation
- Network Cabling Service Calls

differentiators

- BICSI RCDD, BICSI Technician, MTA Certifications
- Efficiency in Design and Estimation
- Centralized Project Tracking
- Proprietary Web Tool

Client experience

- Adams County School District Wireless AP Cabling Project and Fiber Optic Backbone Cabling Project
- Kroger Arvada Facility DAS System
- Stryker combined office space network cabling
- Denver Apartment complex wireless implementation

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AFLCMC Building 1614 Fiber to Desk Bid Schedule

Period of Performance		Install Address
240 Calendar Days ARO Award	HN Fiber to Desk (F2D)	Building 1614 11 Barksdale Street Hanscom AFB, MA 01731
Project Manager	**Contracting Officer**	
Peter Crory	Marcus R. Green	
peter.crory@us.af.mil	marcus.green.7@us.af.mil	

Item	Item Description	Quantity	Unit of Measure	Unit Price	Total Price
DESIGN					
0001	Site Visit	1	EA	$2,000.00	$2,000.00
0002	Draft Design	1	EA	$9,000.00	$9,000.00
0003	Final Design	1	EA	$2,000.00	$2,000.00
CONSTRUCTION MANAGEMENT					
0004	Submittals	1	LO	$3,000.00	$3,000.00
0005	Project Mangement	1	LO	$26,000.00	$26,000.00
0006	Close Out Documents	1	LO	$4,000.00	$4,000.00
FIBER OPTIC CABLE INSTALLATION					
0007	MDF-2 to Central IT	1	LO	$8,599.01	$8,599.01
0008	Central IT to Room 02-00-09	1	LO	$151,700.00	$151,700.00
	Central IT to Server Rooms				
0009	Server Room Rack Enclosures	37	EA	$6,918.00	$255,966.00
0010	Server Room 01-02-05 to Offices / Workstations	1	LO	$12,579.56	$12,579.56

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0011	Server Room 01-03-02 to Offices / Workstations	1	LO	$50,318.25	$50,318.25
0012	Server Room 01-04-03 to Offices / Workstations	1	LO	$37,738.69	$37,738.69
0013	Server Room 01-04-15 to Offices / Workstations	1	LO	$9,434.67	$9,434.67
0014	Server Room 01-05-57 to Offices / Workstations	1	LO	$216,271.72	$216,271.72
0015	Server Room 01-06-06 to Offices / Workstations	1	LO	$15,724.45	$15,724.45
0016	Server Room 01-07-06 to Offices / Workstations	1	LO	$15,724.45	$15,724.45
0017	Server Room 01-08-04 to Offices / Workstations	1	LO	$9,434.67	$9,434.67
0018	Server Room 01-14-05 to Offices / Workstations	1	LO	$12,579.56	$12,579.56
0019	Server Room 02-01-46 to Offices / Workstations	1	LO	$150,954.75	$150,954.75
0020	Server Room 02-02-03 to Offices / Workstations	1	LO	$9,434.67	$9,434.67
0021	Server Room 02-03-04 to Offices / Workstations	1	LO	$15,724.45	$15,724.45
0022	Server Room 02-04-04 to Offices / Workstations	1	LO	$12,579.56	$12,579.56
Additional Notes				**TOTAL**	**$1,030,764.47**

A. Vendors are only required to complete the fields highlighted in Yellow.

B. Products delivered under this delivery order shall be new-in-box, NOT refurbished or recertified.

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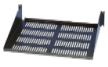
Example of Material

AFLCMC Building 1614 HN Fiber to Desk 2024-PZI-1238-Bill of Materials.pdf

	CCH-CP12-A9	Corning 12F OS2 adapter panel	8	$1051.01	00 Hrs 16 Mins	$26.67	$1077.68
	FP12LCSM3M	12 Strand Singlemode LC-UPC Fiber Pigtail (3 Meter)	8	$306.72	16 Hrs 00 Mins	$1600.00	$1906.72
	040402R5820002M	Corning OS2 LC-LC patch cord, 2M	48	$1241.28	1 Hrs 36 Mins	$160.00	$1401.28
	SR42UBDP	Tripp Lite SR42UBDP SmartRack Rack Cabinet, Deep 42U	37	$73636.96	148 Hrs 00 Mins	$14800.00	$88436.96
	PDU3MV6L2120LV	Tripp Lite PDU3MV6L2120LV 3-Phase Metered PDU, 5.7 kW, 42 Outlets, 120V Output	37	$23420.56	37 Hrs 00 Mins	$3700.00	$27120.56
	AR7580A	Vertical Cable Manager APC AR7580A for NetShelter SX 750mm Wide 42U	37	$16070.58	37 Hrs 00 Mins	$3700.00	$19770.58
	13930-702	Chatsworth 2U horizontal cable manager (black)	74	$6414.91	74 Hrs 00 Mins	$7400.00	$13814.91
	SRSHELF2PDP	Tripp Lite SRSHELF2PDP 2U Cantilever Fixed Shelf, 60 lb Capacity, 21" Depth, Black	74	$7769.11	74 Hrs 00 Mins	$7400.00	$15169.11

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References

1. Adams County School District14

Project name: E Rate, Wireless Access Point Cabling and 10GB Fiber Optic Interconnect Between MDF and IDF Closets

Contact information.
David Powell
Network Administrator

Adams County School District 14
D/M: 303.853.3227
5291 East 60th Ave., Commerce City, CO 80022 dpowell@adams14.org | www.adams14.org

2. Stryker

Project name: Stryker new facility network infrastructure. Contact information.

Marc Terry
Senior Branch Operations Manager

Stryker
13310 James E Casey Ave Englewood, CO 80112 C 720 375 6985

2. SiteOne Retail Stores Cabling

Contact Information Gary Ledwell SR
ITS National Project Manager Vision Technologies, Inc.
O: (667) 239-2540 C: (443) 761-5013
gledwell@visiontech.biz